

STANDARD FOR

Skip Trolley

UNCONTROLLED

STANDARD FOR SKIP TROLLEY

NO: T.E.L. - 596 - Rev 1-16.

1.0 SCOPE:

This standard specifies the requirements for thermoplastic skip trolleys for use in the construction industry for the discharge and use of mortar or the collection of segregated waste. This standard applies to skips that are open and not subject to any over pressure and having a capacity in excess of 200 litres.

The purpose of the standard is to define the material used, requirements, tests, type tests and production quality control tests.

Companies manufacturing to the standard must be certified to I.S. EN 9002 or equivalent.

2. NORMATIVE REFERENCE

This Standard incorporates by dated or undated reference from other publications. These 'normative' references subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated reference the latest edition of the publication referred to applies.

ISO 1133 - 1981	Plastics Determination of the Melt Flow Rate of Thermoplastics
ISO 1183	Plastics: Method of Determining density
ISO R527	Determination of Tensile Properties
ISO 175	Plastics: Determination of the effects of liquid chemicals, including water
ISO 1872 - 1986	Plastics: Test specimen preparation
EN 45020	General terms and their definition concerning standardisation and related activities

3. DEFINITION

A skip trolley;

A container that retains its design shape for the purpose of carrying mortar or construction site segregated waste when empty without any external support.

4. DESIGN REQUIREMENTS

- 4.1 *Lifting:*** The Skip Trolley should be suitable for manoeuvring by hand or lifting by means of a crane or forklift or Teleporter, when used with appropriate certified lifting equipment and in accordance with manufacturers instructions.

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- 4.2 Supports:** The skip trolley should be supported about its top rim by means of a steel structure to the standards contained herein.
- 4.3** The skip trolley should be suitable for lifting and travelling about a construction site by means of a manual pushing, crane, forklift or Teleporter.
- 4.4** The skip trolley should be of such a design so as to prevent the stagnation of residue mortar. It should also be suitable for the use with plastic liner bags. It should be a single skin design & have no area for mortar to become trapped there in.
- 5. MATERIAL PROPERTIES:**
- 5.1 Density - (Raw materials)**
The use of regrind shall not be permitted.
Determined in accordance with ISO 1183 method A or D. A single resin polymer shall have a density not less than 925kg/m³ and not greater than 935kg/m³.
- 5.2 Melt Flow Rate - (Raw materials)**
The Melt Flow Rate is measured in accordance with ISO 1133 Section 4, must be a maximum of 5g/10min and a minimum 3g/10min. Test to be carried out on raw material.
- 5.3 Weather Resistance**
The material used in the manufacture of the body shall be ultra violet light stabilised.
- 5.4 Steel Frame**
Manufactured from steel to BS.1387 Medium grade or better,(gun barrel light gauge not suitable)
- 5.5 Fabrication of Steel Frame**
All fabrication of steel components to be completed by Certified welder in accordance with EN 287-1

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6. SKIP

6.1 Capacity and Tolerance

(a).When tested the ambient temperature shall be $15^{\circ}\text{C} \pm 5^{\circ}\text{C}$. The skip shall be filled to overflow (brimful) with water, wait ten minutes fill to overflow, and measure the capacity to an accuracy of $\pm 1\%$.

(b) The stated capacity shall be the measured capacity + 15% - 5% stated in litres.

6.2 Visual inspection

On visual inspection of the skip there should be no bubbles, blisters, or other defects that could cause a hole or fracture.

6.3. Weight

The weight of the skip, measured with the frame and any attachments, shall not be more than 60kg. The body of the skip should weigh 40 grammes per litre of capacity of the tub. Tolerance in these weights shall be +20%, -10%.

6.4 Wall thickness

The minimum wall thickness on any point of the sides or base shall not be less than 4mm. A margin of 10% is permitted.

6.5 Load capacity

The load capacity of the skip is the capacity as defined in 6.1, multiplied by a factor of 2.00 to give the certified load capacity of the skip in kg.

6.5.1 Testing of the skip trolley shall be as follows:

The Skip Trolley complete with all its framework and fixings shall be subject to a series of lift tests as follows:

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- (a) Loaded with weight which equates to its certified load capacity + 100%, well distributed.
- (b) The temperature at test shall be 20°C +/- 5°C.
- (c) The skip shall be lifted at its recommended lifting points by approved lifting devices.
- (d) 200 lifts shall be completed in batches of 25 over a four-hour period.
- (e) The skip when fully loaded shall be suspended for a period of 24 hours.
- (f) Result:
 - (i) No failure of skip, frame or any part shall occur.
 - (ii) The skip when emptied shall return to its original shape within 3 hours and be suitable for re-use

6.5.2 Testing of Metal Frame for Skip.

The metal frame should be tested as follows:

- (a) A load of 1.5 tonne should be suspended from the centre part of the frame and left for 24 hours.
- (b) A load of 1.5 tonne should be suspended from one handle of the mortar skip and the frame lifted by the other handle and left suspended for 24 hours.
- (c) One in every 100 handles manufactures should be subjected to a tensile load of 1 tonne.
- (d) Results:
 - (i) No failure or fracture of frame on welds shall occur.
 - (ii) No permanent deformation of the frame on any part shall occur.

6.6 Test frequency

- (i) Load capacity is a type test and shall be completed prior to certification, once off ref. 6.5.1 and 6.5.2 and thereafter test 6.5.1.
 - (a) (as a once off load test held for 1 min.), every 6 months certified by independent body.
- (ii) Weight: The weight of the skip as defined in 6.3 shall be tested every 3 months from samples randomly picked from production.
- (iii) Capacity: As defined in 6.1 is a type of test that is completed prior to certification, once off.
- (iv) Visual inspection: Every skip
- (v) Wall thickness: Once every 3 months.

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6.7 Testing of the support plate and castor fixing to underside of Skip Trolley .

The support plate and castors should be tested as follows,

- (a) A weight equal to ten times the total weight of the support plate, castors and securing nuts and bolts should be suspended from the base of the skip suspended from the castors.
- (b) The unit shall be lifted at its recommended lifting points by approved lifting devices.
- (c) 200 lifts shall be completed in batches of 25 over a four-hour period.
- (d) The unit shall be suspended for a period of 24 hours.
- (e) Result:
 - (i) No failure of the securing points in the skip or support plate, or any part shall occur.

6.7.1 Testing of the support plate and castor fixing to underside of Skip Trolley .

- (a) Loaded with weight which equates to its certified load capacity + 100%, well distributed.
- (b) The temperature at test shall be 20°C +/- 5°C.
- (c) The skip shall be traversed across a series of batons set 500m/m apart and with a section size of 50m/m X 25m/m over a distance of 500 meters.
- (d) Result:
 - (i) No failure of the securing points in the skip or support plate, or any part shall occur.

6.7.2. Testing of the support plate and castor fixing to underside of Skip Trolley .

- (a) Loaded with weight which equates to its certified load capacity + 100%, well distributed.
- (b) The temperature at test shall be 20°C +/- 5°C.
- (c) The skip shall be pushed in a sideways movement across a concrete surface over a distance of 200 meters.

(d) Result:

- (i) No failure of the securing points in the skip or support plate, or part shall occur.
- (ii) No failure of the wheel or the castor frame

6.8 Finish of Metal Parts

All metal parts shall be protected as follows.

Frame: Galvanised through dip galvanising or Electroplating to BS 729

Fixings: Cadmium Plated; Zinc Plated; Galvanised or Stainless steel

Base Plate: Base plate shall be Mild Steel, no less than 4mm thick, painted to same colour as Tub or Black as standard Gloss finish.

6.9 Castors and base

The Skip Trolley shall have two fixed direction castors and two swivel brake castors. See spec in Annex. 1.

7.0 MARKINGS:

The following information should be marked on each skip:

Capacity

Year of Manufacture

Standard mark no.

Load capacity

Name of manufacturer.

Max Weight when empty.

8.0 PRODUCTION AND QUALITY CONTROL

The tests described in section 6.6 of this standard should be carried out at the frequency indicated above during production, quality control, and records maintained within a quality system. This system should be audited and certified by a Certified External Authority in accordance with CEN regulator EN 45020.

Annex 1.**Product Information****125mm '22' Blue Elastic Plate****Characteristics**

Good floor preservation
 Vibration absorbing
 Temperature : -30° / +80° C

Low rolling and adrasion resistance
 Hardness of thread: 70 shore A
 Resistant to many aggressive substances

Wheel

Wheel Diameter	125mm
Wheel Width	37mm
Bearing Type	roller
Wheel Bore	14mm
Hub Length	48mm
Capacity	200kg

Castors

Zinc plated pressed steel housing

Wheel Diameter	125mm
Wheel Width	37mm
Bearing Type	roller
Plate Size	100x80mm
Hole Centres	80x60mm
Hole Diameter	9mm
Overall Height	152mm
Load Capacity	200kg
Offset on Swivel	39mm

